

Product datasheet

Adenosylhomocysteinase (AHCY) Inhibitor Assay Kit (Fluorometric) ab204694

1 Image

Overview

Product name	Adenosylhomocysteinase (AHCY) Inhibitor Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Inhibitor compounds
Assay type	Enzyme activity
Product overview	Adenosylhomocysteinase (AHCY) Inhibitor Screening Kit (Fluorometric) (ab204694) is a simple assay to study, screen or characterize potential inhibitors of AHCY. In this assay, the homocysteine generated from the breakdown of S-Adenosyl Homocysteine (SAH) is measured using a Thiol Detecting Reagent which results in enhanced fluorescence that can be measured at Ex/Em = 392/482 nm. The AHCY reaction is reversible, and therefore Adenosine Deaminase is included in the reaction to ensure that the reaction proceeds towards hydrolysis of SAH. In the presence of AHCY inhibitor, there is a decrease in fluorescence of the Thiol Detecting Reagent.

Notes Adenosylhomocysteinase (AHCY) (EC 3.3.1.1) or S-adenosylhomocysteine hydrolase (SAHH); is an enzyme that catalyzes the reversible hydrolysis of S-Adenosyl Homocysteine (SAH) to adenosine and homocysteine. Inhibition of AHCY results in the accumulation of SAH, a product inhibitor of S-adenosyl methionine (SAM)-dependent methyltransferases. AHCY is an important target as an antiviral and anticancer drug. Several characterized SAH inhibitors inhibit some DNA viruses (e.g. Pox viruses) and some negative stranded RNA viruses (e.g.: Marburg virus, Ebola virus & rabies).

Platform Microplate reader

Properties

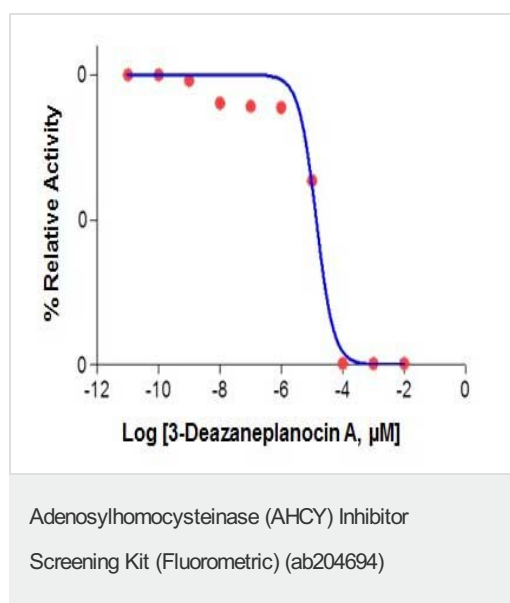
Storage instructions Store at -20°C. Please refer to protocols.

Components	100 tests
3-Deazaneplanocin A (10 µM) (in DMSO)	1 x 10µl
Adenosine Deaminase	1 vial
AHCY Assay Buffer	1 x 25ml

Components	100 tests
AHCY Enzyme	1 vial
AHCY Reconstitution Buffer	1 x 250µl
AHCY Substrate (in DMSO)	1 x 100µl
Thiol Detecting Reagent (in DMSO)	1 x 200µl

Function	Adenosylhomocysteine is a competitive inhibitor of S-adenosyl-L-methionine-dependent methyl transferase reactions; therefore adenosylhomocysteinase may play a key role in the control of methylations via regulation of the intracellular concentration of adenosylhomocysteine.
Pathway	Amino-acid biosynthesis; L-homocysteine biosynthesis; L-homocysteine from S-adenosyl-L-homocysteine: step 1/1.
Involvement in disease	Defects in AHCY are the cause of hypermethioninemia with S-adenosylhomocysteine hydrolase deficiency (HMAHCHD) [MIM:613752]. A metabolic disorder characterized by hypermethioninemia associated with failure to thrive, mental and motor retardation, facial dysmorphism with abnormal hair and teeth, and myocardopathy.
Sequence similarities	Belongs to the adenosylhomocysteinase family.
Cellular localization	Cytoplasm. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

Images



Inhibition of Adenosylhomocysteinase (AHCY) Enzyme activity by 3-Deazaneplanocin A. IC₅₀ of 3-Deazaneplanocin A was determined to be 0.137 nM.

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